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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/621,825	07/21/2000	Jung Tae Kang	06192.0146AA	4506

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EXAMINER	
NGUYEN, JIMMY H	

ART UNIT	PAPER NUMBER
2629	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/621,825	KANG ET AL.	
	Examiner	Art Unit	
	JIMMY H. NGUYEN	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 May 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,5,9,11-13 and 18-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,5,9,11-13 and 18-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is made in response to applicant's amendment filed on 05/30/2008. Claims 1, 5, 9, 11-13 and 18-23 are currently pending in the application. An action follows below:

Allowable Subject Matter

2. The indicated allowability of claims 1 and 23 is withdrawn in view of the amendment to independent claim 1.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 5, 9, 11-13, and 18-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yun et al (USPN: 5,835,139), hereinafter Yun, in view of Murai (USPN: 5,986,726), and further in view of Williamson et al. (USPN: 5,475,381), hereinafter Williamson.

As to **claims 1, 5 and 18**, Yun discloses **a display device** (see a LCD device as shown in fig. 7) comprising **a LCD module** (or a monitor unit) (a LCD assembly structure as shown in fig. 6) including **a backlight assembly** (an assembly including elements **110-180**, see fig. 6) having **a light source** (a luminescent lamp **110**, see Fig. 6) and **a rear surface** (a rear surface of a reflector 140 is a rear surface of the backlight assembly; see Fig. 6), **a LCD panel** (a liquid crystal panel **300**, see Fig. 6) arranged on the backlight assembly (110-180), **a mold frame** (a first support frame **190**, see Fig. 6) receiving the backlight assembly (110-180) and extending

over the entire rear surface of the backlight assembly (see Fig. 6), and **a chassis** (a second frame support **400**, see Fig. 6) coupled to the mold frame (190) to fix the backlight assembly and the LCD panel therebetween (see Fig. 6; col. 4, lines 48-54); **an information processing module** (a driving circuit board **23**; see col. 2, lines 18-20, best seen in Fig. 1) inherently including a video signal processing unit for generating video signals and for providing video signals to the liquid crystal panel via a flexible film (see col. 2, lines 18-20); **a printed circuit board** coupled between the information processing nodule (23) and the LCD panel (21) (see Fig. 1), receiving the video signals from the information processing module (23) and generating and providing a gate driving signal and a data driving signal to the LCD panel (21) (Figs. 1 and 6; col. 1, lines 44-48; col. 2, lines 18-20); and **an input unit** (a keyboard, see Fig. 5 or 9) provided externally to the monitor unit and inherently connected to an inherent central processing unit (Fig. 5 or 9). Yun does not disclose expressly that the central processing unit is comprised in the information processing unit.

Accordingly, Yun discloses all limitations of these claims except for a limitation **(i)** "the mold frame is formed to be gradually thinner as further advancing from a first side adjoining the light source toward a second side opposite the first side" of **claims 1 and 5**; a limitation **(ii)** "the chassis is formed to be gradually thinner as further advancing from a first side adjoining the light source toward a second side opposite the first side" of **claims 1 and 5**; a limitation **(iii/1)** "an information processing module is mounted on a rear surface of the mold frame" of **claims 1 and 5**, and a limitation **(iii/2)**, "an information processing module is attached to a rear surface of the mold frame and disposed in a receiving space defined on the rear surface of the mold frame" of

claim 18; a limitation (**iv**) the central processing unit is comprised in the information processing unit, in the manner as presently recited in the claims **1, 5 and 18**.

Regarding to the limitation (**i**), "**the mold frame is formed to be gradually thinner as further advancing from a first side adjoining the light source toward a second side opposite the first side**", Murai discloses a related information processing apparatus (fig. 5) comprising a mold frame (a frame structure corresponding to the claimed mold frame and defined by the metal sheet 1 and the resin frame 2, col. 4, lines 10-12), that accepts the backlight assembly (7) (figs. 1, 2 and 5, col. 4, lines 10-12) and a LCD panel (5) (figs. 1, 2 and 5, col. 3, lines 64-66), and formed closely to the rear surface of the backlight assembly, so as to form the mold frame gradually thinner as further advancing from a first side (the side to the left of the light guiding plate 7, as shown in figs. 1 and 5) adjoining the light source toward a second side (the side to the right of the light guiding plate 7) opposite the first side. Further see col. 4, lines 16-39. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify the Yun mold frame formed closely to the rear surface of the backlight assembly, so as to form the mold frame gradually thinner as further advancing from a first side adjoining the light source toward a second side opposite the first side, while maintaining the rear surface of the mold frame still to be rectangular in shape, in view of the teaching in the Murai reference, because this would provide an apparatus with features of small size, thin thickness and light weight, as taught by Murai (col. 2, lines 1-3).

Regarding to the limitation (**ii**), "**the chassis is formed to be gradually thinner as further advancing from a first side adjoining the light source toward a second side opposite the first side**", while Murai exemplifies only the mold frame formed to be gradually thinner as

further advancing from a first side adjoining the light source toward a second side opposite the first side and may not exemplify the chassis formed to be gradually thinner as further advancing from a first side adjoining the light source toward a second side opposite the first side; however, since the Yun backlight assembly has a wedge shape as viewed from a side, it would have been within the level of skill in the art and obvious to one having ordinary skill to engineering design the shape of the Yun chassis as desired (i.e., the chassis formed to be gradually thinner as further advancing from a first side adjoining the light source toward a second side opposite the first side) as the shape of the modified mold frame, which is taught by the Murai reference, and as was judicially recognized in re Dailey, 149 USPQ 47 (CCPA 1976), because this would provide an apparatus with features of smaller size, thinner thickness and lighter weight, as taught by Murai (col. 2, lines 1-3).

Regarding to the claimed limitation (**iii/1**), "an information processing module is mounted on a rear surface of the mold frame" of claims 1 and 5, and the limitation (**iii/2**), "an information processing module is attached to a rear surface of the mold frame and disposed in a receiving space defined on the rear surface of the mold frame" of claim 18, Murai (see Fig. 1) teaches the display device (see Fig. 1) comprising a mold frame (a frame structure corresponding to the claimed mold frame and defined by the metal sheet 1 and the resin frame 2, see Fig. 1, col. 4, lines 10-12), that accepts the backlight assembly (7) (Fig. 1, col. 4, lines 10-12) and a LCD panel (5) (Figs. 1, 2 and 5, col. 3, lines 64-66), and an information processing module (4) attached or mounted to a rear surface of the mold frame (a bottom surface of a metal sheet 1, i.e., a rear surface of the frame structure) (see Figs. 4-5; col. 5, lines 6-9) and disposed in a receiving space defined by a reinforcing bracket (14) integrally formed on the rear surface of the mold

frame (1) (Figs. 3-4; col. 4, lines 56-64), for generating and supplying a driving signal to drive LCD panel via the source printed circuit board (a driver circuit provided in peripheral edges of the circuit array substrate, col. 5, lines 40-53). It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to attach or mount the Yun information processing module (23) on a rear plane of the Yun mold frame and dispose the Yun information processing module (23) in a receiving space defined by a reinforcing bracket integrally formed on the rear surface of the mold frame, in view of the teaching in the reference, because this would substantially prevent electromagnetic wave noises generated by a driver circuit board from interfering with other electronic components, as taught by Murai (see col. 2, lines 8-11).

Regarding to the claimed limitation (**iv**), "**the central processing unit is comprised in the information processing unit**", Williamson (Figs. 1-2) discloses an information processing apparatus (a computer system; Fig. 1; col. 2, lines 50-60) comprising a LCD device (see Figs. 1 and 2) comprising **an information processing module** (a module including elements 56-59, 61, 70, 71, 73, and 90, see Fig. 2) **including a central processing unit** (a microcontroller 56 such as a central processing unit; see col. 3, lines 27-32). Williamson further teaches that all elements of the computer system (the claimed information processing apparatus) are all mounted within the casing (10) (Figs. 1-2; col. 3, lines 21-22), thereby reducing the size of the apparatus as small enough to fit into a pocket, as taught by Williamson (col. 2, lines 54-60). Thus, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to utilize Williamson's teaching above in the information processing apparatus of Yun, i.e., locating the Yun central processing unit in the Yun information processing unit, because this would fit all

elements in the same casing, thereby reducing the size of the apparatus, which is small enough to fit into a pocket, as taught by Williamson (col. 2, lines 54-60).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to combine Yun, Murai, and Williamson to obtain the inventions defined by claims 1, 5 and 18.

As to **claims 9, 20 and 23**, the Yun apparatus comprises an inherent data storage device for storing or supplying data in response to the control signals from the central processing unit. Yun does not expressly teach the data storage disposed in the information processing module, as presently claimed. However, as noting in figs. 1-2, Williamson discloses data storage (61) disposed in the information processing module. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to locate the data storage in the Yun information processing module, in view of the teaching in the Williamson reference, because this would reduce the size of the apparatus which is small enough to fit into a pocket, as taught by Williamson (col. 2, lines 54-60).

As to claims **11 and 19**, Yun further teaches the LCD module and the information processing module, both fixed together between a front case (520) and a rear case (500) coupled to each other (fig. 7, col. 4, lines 55-65).

As to claims **12 and 21**, Williamson further teaches the storage unit (61) comprising RAMs (62, 63) and ROM (64) (col. 3, lines 38-41).

As to claims **13 and 22**, Williamson further teaches the information processing module further comprising interfacing means for interfacing data with an external information processing

module (col. 7, lines 8-10), sound control means (system speaker 72, col. 4, lines 17-19) and communicating means for performing external communication (IR emitter 53 and IR receiver 54, see fig. 2).

Response to Arguments

5. Applicant's arguments filed 07/07/2005 have been fully considered but they are not persuasive. Applicant argues that:

> "There is no teaching or suggestion anywhere in either reference that such simple driver circuitry and components constitute or comprise an information processing module comprising a central processing unit generating control signals and a video signal processing unit generating video signals. Indeed, since both references relate to portable or "laptop" computers, it is respectfully submitted that both the CPU and the video processor of both references conventionally reside in the main body of the device.
>
> The Williamson reference relates to a special-purpose "hand held computer" in the nature of a "personal digital assistant" (PDA) that is capable of communicating with a "host computer" via high speed infrared (IR) signals (Williamson, col. 1, lines 42-46). Although the device does include a "a liquid crystal display 12 with touch sensitive overlay 18," it is not seen how this satisfies the limitations of independent claims 5 and 18 of "**an input unit** provided externally to the LCD module." More pertinently, there is no teaching or suggestion in Williamson of a "**mold frame**" receiving the LCD, much less the limitation of "an information processing module mounted on/attached to a rear surface of the mold frame" of those two claims."

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In the instant case, a person of ordinary skill in the art at the time of the invention was made would have been obvious **to utilize Williamson's teaching above** (i.e., locating the central processing unit (56) in the information processing unit (56-59, 61, 70, 71, 73, and 90) so as to fit all elements in the same casing, thereby reducing the size of the apparatus as small enough to fit into a package, as taught by Williamson), in the apparatus of Yun, so that the Yun central processing unit is located in the Yun information processing unit, thereby fitting the central

processing unit, the information processing unit, a LCD screen, and other elements in the same casing, and reducing the size of the apparatus, which is small enough to fit into a pocket, as taught by Williamson (col. 2, lines 54-60).

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy H. Nguyen whose telephone number is 571-272-7675. The examiner can normally be reached on Monday - Friday, 6:30 a.m. - 3:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached at 571-272-7681. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Jimmy H Nguyen/

Primary Examiner, Art Unit 2629